Impact of Concept 3

Transit Planning Board

Planning and Funding Committee

July 24, 2008

Overview

- Background
- Ridership Estimates
- Accessibility
- Safety
- Congestion Relief
- Economic Impact
- Fuel Impact
- Land Use

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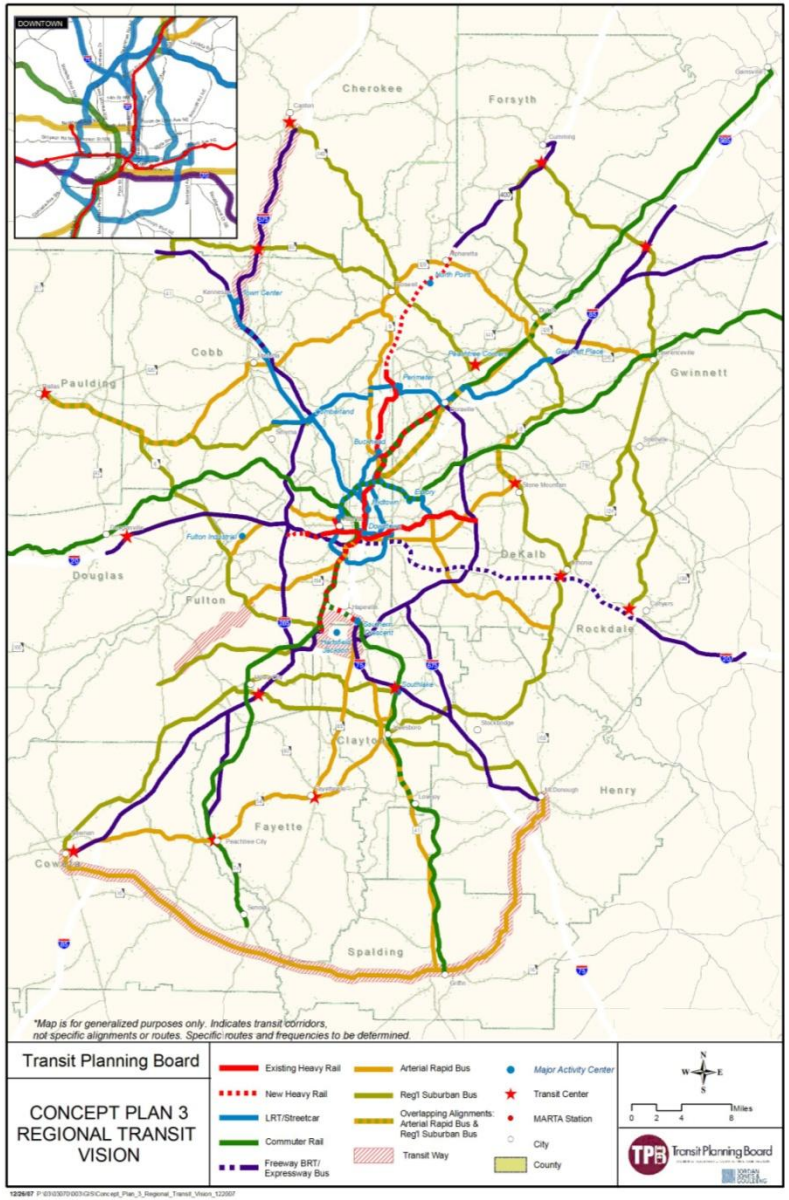
Background



- Concept 3 is a regional vision for transit in the Atlanta area
- Developed over 2 years
- Recently completed a six month public engagement process
- This report is on Concept 3 as approved for public input – potential changes are presented in another presentation

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Vision Purpose

Develop a regional transit vision plan that:

- Serves commuters, people without autos & visitors
- Provides mobility choice, travel time certainty/reliability &
- Connects local communities with the region through a seamless service network

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Ridership Estimates

Measure	Actual 2005	2008 Model Est.	E6 2030 Est.	2030 Concept 3 Est.	Concept 3 5% Pop./ Emp. Shift	Concept 3 10% Pop./ Emp. Shift	Concept 3 15% Pop./ Emp. Shift	Concept 3 20% Pop./ Emp. Shift
Average Daily Weekday Trips	495,730	434,000	716,000	832,000	1,017,000	1,226,000	1,464,000	1,800,000
Est. Annual Trips (1,000,000)	150	129	213	248	303	365	436	537
Est. Annual Passenger Miles (1,000,000)	811	758	1,339	1,589	1,974	2,421	2,927	3,643

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Accessibility (1)

- Carl Vinson Institute Study – Economic Impact of MARTA on Atlanta is primarily labor related

	2001	2002	2003	2004	2005	2006
Estimated Economic Impact of MARTA (Millions $)						
	$1,333	$1,563	$1,571	$1,543	$1,589	$1,630
Total Annual Operating Costs for the Atlanta Regional Transit System (Millions $)						
	$344	$313	$337	$332	$338	$334
Total Annual Capital Costs for the Atlanta Regional Transit System (Millions $)						
	$268	$248	$255	$220	$183	$221
Total Annual Capital and Operating Costs for the Atlanta Regional Transit System (Millions $)						
	$612	$561	$592	$552	$521	$555
Ratio of Estimated Economic Impact and Total Costs						
	2.2	**2.9**	**2.7**	**2.8**	**3.0**	**2.9**

[1] Tanner, Thomas C. and Adams Jones. The Economic Impact of the Metropolitan Atlanta Rapid Transit Authority: An analysis of the impact of MARTA Operations on and around the service delivery region. Georgia Economic Modeling System, Carl Vinson Institute of Government, The University of Georgia. Athens, GA. May, 2007.

[2] Source: NTD 2006 for MARTA, GRTA, CCT, GCT, City of Canton compiled by the Transit Planning Board

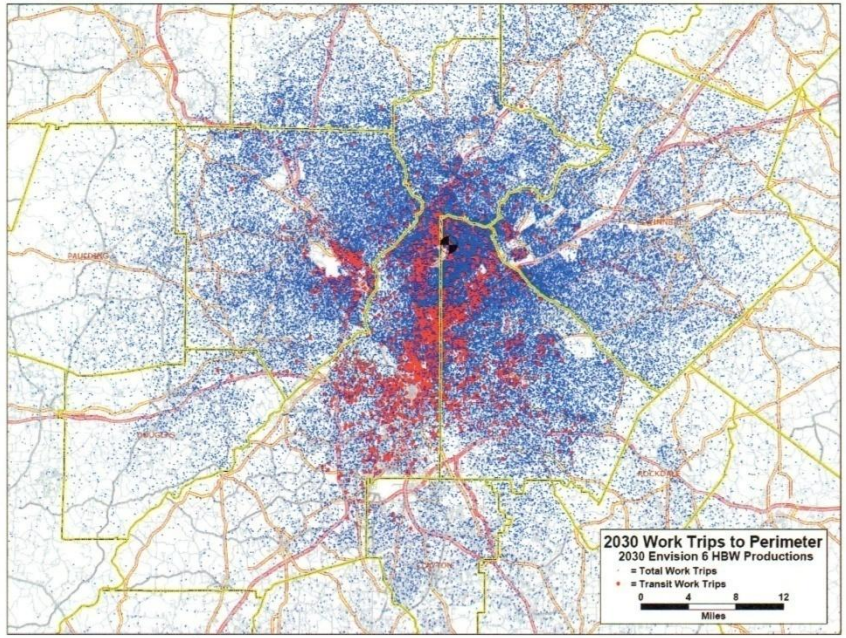
[3] Source: NTD 2006 for MARTA, GRTA, CCT, GCT, City of Canton compiled by the Transit Planning Board

Accessibility (2)

Perimeter 2030

Employment = 114,000

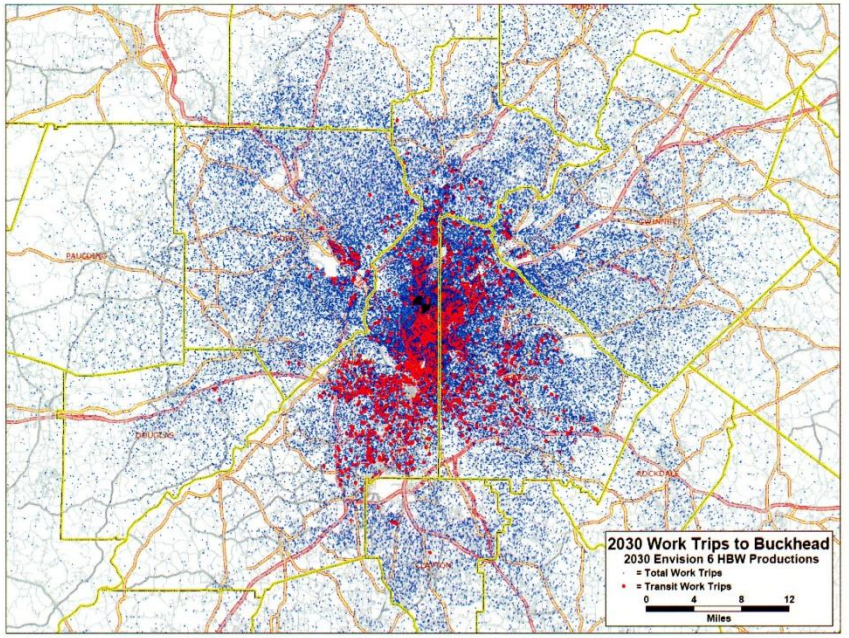
2030 Production Locations for Trips to Perimeter



Buckhead 2030

Employment = 84,000

2030 Production Locations for Trips to Buckhead

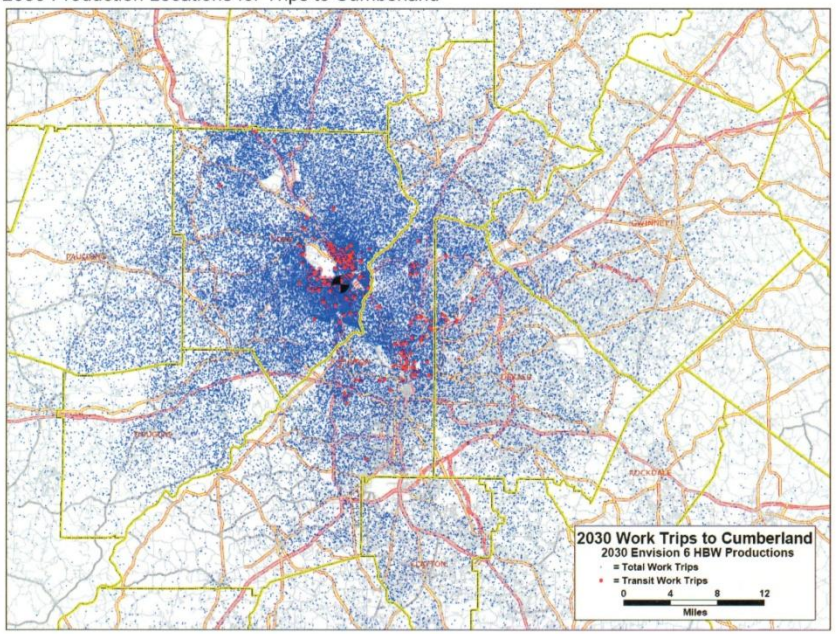


1. Employment Numbers: ARC Regional Travel Demand Model
2. Figures from “Move the Atlanta Region Now: TPB Concept 3 Review” June, 2008 from MARTA

Accessibility (3)

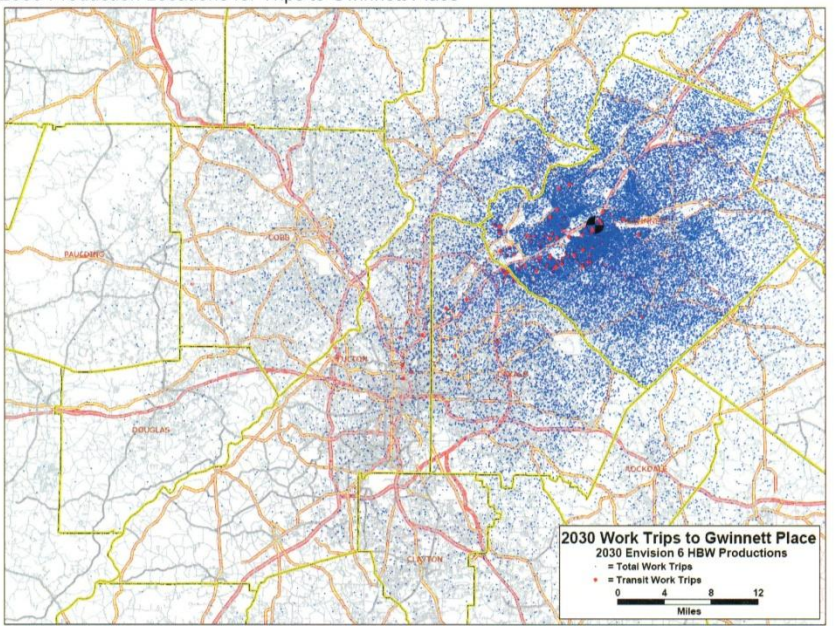
Cumberland 2030
Employment = 58,000

2030 Production Locations for Trips to Cumberland



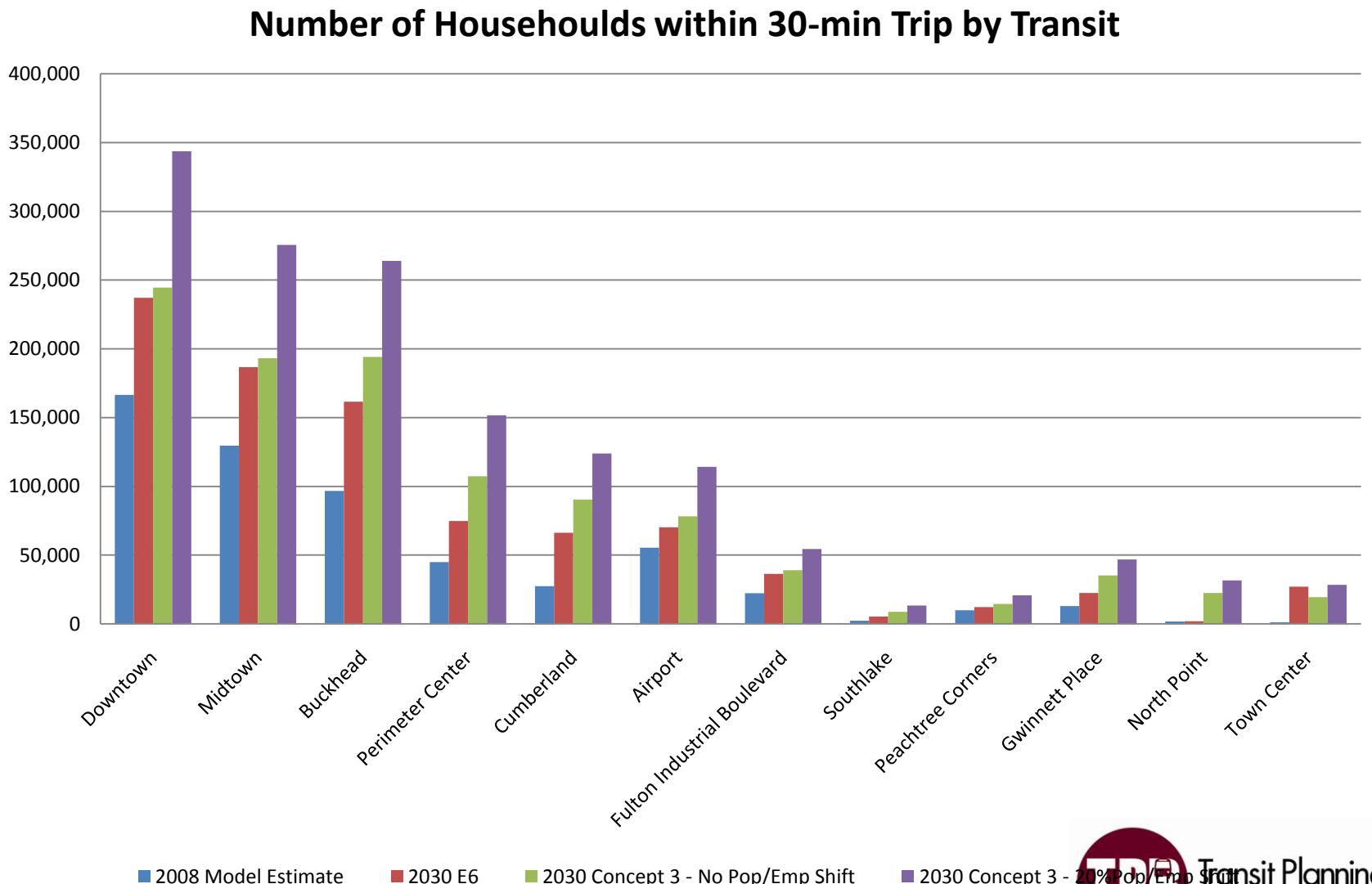
Gwinnett Place 2030
Employment = 50,000

2030 Production Locations for Trips to Gwinnett Place



1. Employment Numbers: ARC Regional Travel Demand Model
2. Figures from “Move the Atlanta Region Now: TPB Concept 3 Review” June, 2008 from MARTA

Accessibility (4)



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Safety

E6	Concept 3 – No Pop/ Emp. Shift	Concept 3 – 5% Pop/ Emp. Shift	Concept 3 – 10% Pop/ Emp. Shift	Concept 3 – 15% Pop/ Emp. Shift	Concept 3 – 20% Pop/ Emp. Shift
Estimated Avoided Fatalities					
15	17	21	26	31	39
Estimated Avoided Injuries					
752	990	1,253	1,554	1,899	2,394
Estimated Value of Avoided Fatalities (Millions $)					
$47.6	$53.4	$66.9	$82.7	$100.5	$125.8
Estimated Value of Avoided Injuries (Millions $)					
$51.2	$67.5	$85.4	$105.9	$129.5	$163.2
Total Estimated Value of Avoided Injuries and Fatalities (Millions $)					
$98.8	$120.9	$152.3	$188.6	$230.0	$289.0

Source: "Safety Analysis Methodology" Transit Planning Board. Atlanta, GA May 22, 2008 - http://www.tpb.ga.gov/Documents/TPB/May08/052208%20-%20SafetyAnalysisMemo.pdf

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Congestion Relief (1)

	E6	Concept 3 – No Pop/ Emp. Shift	Concept 3 – 5% Pop/ Emp. Shift	Concept 3 – 10% Pop/ Emp. Shift	Concept 3 – 15% Pop/ Emp. Shift	Concept 3 – 20% Pop/ Emp. Shift
Estimated Annual Passenger Trips (Millions of Trips)						
	213	248	303	365	436	536
Estimated Potential Annual Value of Congestion Relief (Millions $2005)						
	$292	$340	$416	$501	$598	$736

- Based Upon Average Congestion Relief per Trip of $1.37 / trip from Texas Transportation Institute Urban Mobility Report
- Estimate is a rough range of potential relief

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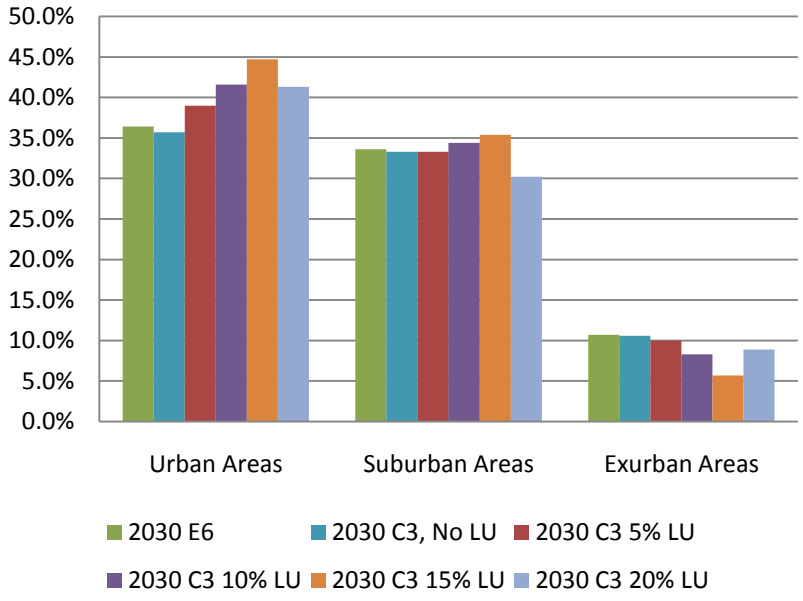
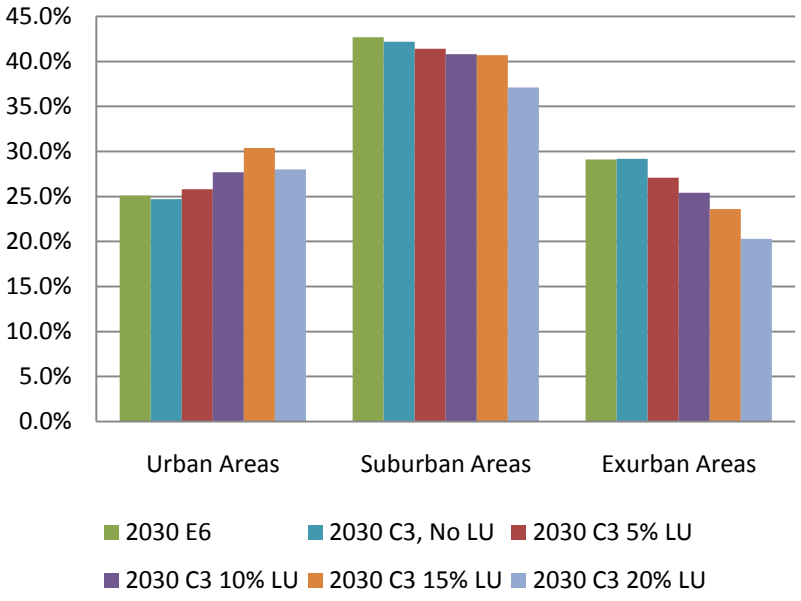
Congestion Relief (2)

% of Freeway Vehicle Hours Traveled Under Congested Conditions (All Day)



% of Arterial Vehicle Hours Traveled Under Congested Conditions (All Day)



- % of Vehicle Hours in Congestion decreases in Exurban Freeways, Exurban Arterials and Suburban Arterials

Congestion Relief (3)

Measures	E6	2030 C3, No LU	2030 C3, 5% LU	2030 C3, 10% LU	2030 C3, 15% LU	2030 C3, 20% LU
Annual Travel Time (hours) / person	374.70	372.70	371.30	369.70	369.10	344.10
% of Travel Time Spent in Congestion	40.10%	39.90%	40.80%	42.10%	44.00%	42.20%
Annual Travel Time in Congestion (hours)	150.25	148.71	151.49	155.64	162.40	145.21

- Average Annual Travel Time Decreases
- Percentage of Time in Congestion Increases

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Economic Impact due to Accessibility

	2001	2002	2003	2004	2005	2006
Estimated Economic Impact of MARTA (Millions $)						
	$1,333	$1,563	$1,571	$1,543	$1,589	$1,630
Total Annual Passenger Miles						
	874,432,746	878,117,600	779,722,651	802,528,299	811,487,324	889,136,973
Estimated Economic Impact / Passenger Mile						
	$2.29	$2.73	$3.11	$2.90	$3.07	$2.88

	E6	Concept 3 – No Pop/ Emp. Shift	Concept 3 – 5% Pop/ Emp. Shift	Concept 3 – 10% Pop/ Emp. Shift	Concept 3 – 15% Pop/ Emp. Shift	Concept 3 – 20% Pop/ Emp. Shift
Estimated Passenger Miles (millions of miles)						
	1,339	1,589	1,974	2,421	2,927	3,643
Estimated Value of Economic Impact (Millions $)						
	$3,790	$4,500	$5,590	$6,850	$8,290	$10,300

[1] Tanner, Thomas C. and Adams Jones. The Economic Impact of the Metropolitan Atlanta Rapid Transit Authority: An analysis of the impact of MARTA Operations on and around the service delivery region. Georgia Economic Modeling System, Carl Vinson Institute of Government, The University of Georgia. Athens, GA. May, 2007.

[2] Source: NTD 2006 for MARTA, GRTA, CCT, GCT, City of Canton compiled by the Transit Planning Board

Fuel Impact

E6	Concept 3 – No Pop/ Emp. Shift	Concept 3 – 5% Pop/ Emp. Shift	Concept 3 – 10% Pop/ Emp. Shift	Concept 3 – 15% Pop/ Emp. Shift	Concept 3 – 20% Pop/ Emp. Shift
Estimated Passenger Miles (million of miles)					
1,339	1,589	1,974	2,421	2,927	3,643
Estimated Vehicle Miles Traveled (millions of miles)					
1,100	1,300	1,620	1,980	2,400	2,990
Estimated Gallons of Fuel Saved (millions)					
65	77	95	117	141	176
Estimated Value of Potential Fuel Savings (millions $)					
$261	$310	$385	$472	$571	$711

[1] Estimated Atlanta Vehicle Occupancy Rate = 1.22 passengers / vehicle. Gilbert, Richard. "Greater Toronto Area Comparisons." Toronto, ON. May 30, 2003.

[2] Average Atlanta Fleet Efficiency = 17 miles/gallon. Atlanta Regional Commission. Transportation Spotlight. Atlanta, GA. June 2, 2008.

[3] Average Atlanta Fuel Price = $4.048. "Atlanta gas prices hit record high," Atlanta Journal Constitution. July 5, 2008. (http://www.ajc.com/metro/content/metro/stories/2008/07/05/gas_0706.html Last accessed: July 17, 2008).

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Total Estimated Value of Measured Benefits

	E6	Concept 3 – No Pop/ Emp. Shift	Concept 3 – 5% Pop/ Emp. Shift	Concept 3 – 10% Pop/ Emp. Shift	Concept 3 – 15% Pop/ Emp. Shift	Concept 3 – 20% Pop/ Emp. Shift
Total Estimated Value of Avoided Injuries and Fatalities (Millions $)						
	$98.8	$120.9	$152.3	$188.6	$230.0	$289.0
Estimated Potential Annual Value of Congestion Relief (Millions $)						
	$292	$340	$416	$501	$598	$736
Estimated Economic Benefit (Millions $)						
	$3,790	$4,500	$5,590	$6,850	$8,290	$10,300
Estimate Consumer Benefits from Fuel Savings (Millions $)						
	$261	$310	$385	$472	$571	$711
Total Estimated Value of Benefits (Millions $)						
	$4,440	**$5,270**	**$6,540**	**$8,010**	**$9,690**	**$12,000**

2030 Annual Cost to Benefits Ratio

- Estimated Annual Cost - $2.4 billion
- Range of Estimated Benefits $5.2 - $12 billion

- Ratio of Annual Benefits to Annual Cost*:

2.2 – 5.0

- Range of Cost / Boarding**:

$3.50 - $7.60

•- This is for Concept 3 as approved for public comment in November – work on proposed changes for August

** - This is within the range of $3.92 - $12.58 of Cost / Boardings the existing regional transit system has experienced from 2000 - 2006

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Land Use / Different Travel Markets

- Seventy one (71) LCI areas served by Concept 3
- Courthouses in all eleven TPB counties served
- Twenty–nine (29) major educational institutions served including eight with no present day service
- Twenty-eight (28) hospitals served

Recap

- One of primary benefits is economic through accessibility to jobs
- Congestion Relief reveals trade-offs
- 2030 Annual Ratio of Estimated Benefits to Estimated Cost is between 2.2 – 5.0
- Improved Access to some of the major destinations in the region